



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: 4/3/2019

Subject: Review of Region 5 Data for R06 Deer Park PFAS

To: Region 6, US EPA  
10625 Fallstone Road  
Houston, TX 77099

From: Danielle Kleinmaier, Chemist  
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

---

*Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.*

Attached are Results for: R06 Deer Park PFAS

---

**Analyses included in this report:**

OSRTI PFC

Report Name: 1904001 PFC DRAFT Apr 03 19 1028



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

## Accredited Analyses included in this Report



**Method:** \*\*\* DEFAULT SPECIFIC METHOD \*\*\* in Water

**Analysis:** OSRTI PFC

**Analyte**

**Certifications**

perfluorobutanoate	ISO/IEC 17025:2005
perfluoropentanoate	ISO/IEC 17025:2005
perfluorohexanoate	ISO/IEC 17025:2005
perfluoroheptanoate	ISO/IEC 17025:2005
perfluorooctanoate	ISO/IEC 17025:2005
perfluorononanoate	ISO/IEC 17025:2005
perfluorodecanoate	ISO/IEC 17025:2005
perfluoroundecanoate	ISO/IEC 17025:2005
perfluorododecanoate	ISO/IEC 17025:2005
perfluorotridecanoate	ISO/IEC 17025:2005
perfluorotetradecanoate	ISO/IEC 17025:2005
perfluorobutyl sulfonate	ISO/IEC 17025:2005
perfluorohexyl sulfonate	ISO/IEC 17025:2005
perfluoroctyl sulfonate	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-pentanesulfonate (PFPeS)	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-heptanesulfonate (PFHpS)	ISO/IEC 17025:2005
perfluoro-1-octanesulfonamide (FOSA)	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-nonanesulfonate (PFNS)	ISO/IEC 17025:2005
N-MeFOSAA	ISO/IEC 17025:2005
N-EtFOSAA	ISO/IEC 17025:2005
perfluoro-1-decanesulfonate (PFDS)	ISO/IEC 17025:2005



# Environmental Protection Agency Region 5

## Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS

Project Number: [none]

Project Manager: Matthew Loesel

**Reported:**

Apr-03-19 10:28

---

Analytes not listed above are not accredited by ANAB.



## WORK ORDER

Printed: 4/1/2019 1:20:53PM

**1904001****US EPA Region 5 Chicago Regional Laboratory****Client:** Region 6, US EPA  
**Project:** R06 Deer Park PFAS**Project Manager:** Angela Ockrassa Davis  
**Project Number:** [none]**Sample ID:** [1904001-04](#)      **Sampled:** [Mar-29-19 10:49](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-02-20190329-11](#)                                  **Sample Location/Comments:** [BB-02](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 10:49	

---

**Sample ID:** [1904001-05](#)      **Sampled:** [Mar-30-19 11:17](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-02-20190330-11](#)                                  **Sample Location/Comments:** [BB-02](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 11:17	

---

**Sample ID:** [1904001-06](#)      **Sampled:** [Mar-29-19 11:04](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-03-20190329-11](#)                                  **Sample Location/Comments:** [BB-03](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 11:04	

---

**Sample ID:** [1904001-07](#)      **Sampled:** [Mar-30-19 11:36](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-03-20190330-11](#)                                  **Sample Location/Comments:** [BB-03](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 11:36	

---

**Sample ID:** [1904001-08](#)      **Sampled:** [Mar-30-19 11:36](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-03-20190330-12](#)                                  **Sample Location/Comments:** [BB-03](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 11:36	

---

## WORK ORDER

Printed: 4/1/2019 1:20:53PM

**1904001****US EPA Region 5 Chicago Regional Laboratory****Client:** Region 6, US EPA  
**Project:** R06 Deer Park PFAS**Project Manager:** Angela Ockrassa Davis  
**Project Number:** [none]**Sample ID:** [1904001-09](#)    **Sampled:** [Mar-29-19 11:17](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-04-20190329-11](#)    **Sample Location/Comments:** [BB-04](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 11:17	

---

**Sample ID:** [1904001-10](#)    **Sampled:** [Mar-30-19 11:56](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-04-20190330-11](#)    **Sample Location/Comments:** [BB-04](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 11:56	

---

**Sample ID:** [1904001-11](#)    **Sampled:** [Mar-29-19 11:29](#)    **Matrix:** [Water](#)    [OC Source Sample](#)**Sample Name:** [ITC-BB-05-20190329-11](#)    **Sample Location/Comments:** [BB-05](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 11:29	

---

**Sample ID:** [1904001-12](#)    **Sampled:** [Mar-30-19 12:11](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-05-20190330-11](#)    **Sample Location/Comments:** [BB-05](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 12:11	

---

**Sample ID:** [1904001-13](#)    **Sampled:** [Mar-29-19 12:33](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-07-20190329-11](#)    **Sample Location/Comments:** [BB-07](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 12:33	

---

## WORK ORDER

Printed: 4/1/2019 1:20:53PM

**1904001****US EPA Region 5 Chicago Regional Laboratory****Client:** Region 6, US EPA  
**Project:** R06 Deer Park PFAS**Project Manager:** Angela Ockrassa Davis  
**Project Number:** [none]**Sample ID:** [1904001-14](#)    **Sampled:** [Mar-30-19 12:42](#)    **Matrix:** [Water](#)    [\*OC Source Sample\*](#)**Sample Name:** [ITC-BB-07-20190330-11](#)    **Sample Location/Comments:** [BB-07](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 12:42	

---

**Sample ID:** [1904001-15](#)    **Sampled:** [Mar-29-19 12:49](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-09-20190329-11](#)    **Sample Location/Comments:** [BB-09](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 12:49	

---

**Sample ID:** [1904001-16](#)    **Sampled:** [Mar-30-19 13:10](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-09-20190330-11](#)    **Sample Location/Comments:** [BB-09](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 13:10	

---

**Sample ID:** [1904001-17](#)    **Sampled:** [Mar-29-19 13:31](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-10-20190329-11](#)    **Sample Location/Comments:** [BB-10](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 13:31	

---

**Sample ID:** [1904001-18](#)    **Sampled:** [Mar-29-19 15:00](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-10-20190329-15](#)    **Sample Location/Comments:** [FieldOC](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 15:00	

---

## WORK ORDER

Printed: 4/1/2019 1:20:53PM

**1904001****US EPA Region 5 Chicago Regional Laboratory****Client:** Region 6, US EPA  
**Project:** R06 Deer Park PFAS**Project Manager:** Angela Ockrassa Davis  
**Project Number:** [none]**Sample ID:** [1904001-19](#)    **Sampled:** [Mar-30-19 14:08](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-10-20190330-11](#)    **Sample Location/Comments:** [BB-10](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 14:08	

---

**Sample ID:** [1904001-20](#)    **Sampled:** [Mar-29-19 12:09](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-11-20190329-11](#)    **Sample Location/Comments:** [BB-11](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 12:09	

---

**Sample ID:** [1904001-21](#)    **Sampled:** [Mar-30-19 12:26](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-11-20190330-11](#)    **Sample Location/Comments:** [BB-11](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 12:26	

---

**Sample ID:** [1904001-22](#)    **Sampled:** [Mar-29-19 10:04](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-12-20190329-11](#)    **Sample Location/Comments:** [BB-12](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-26-19 10:04	

---

**Sample ID:** [1904001-23](#)    **Sampled:** [Mar-30-19 10:34](#)    **Matrix:** [Water](#)**Sample Name:** [ITC-BB-12-20190330-11](#)    **Sample Location/Comments:** [BB-12](#)**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 10:34	

---

**WORK ORDER**

Printed: 4/1/2019 1:20:53PM

**1904001****US EPA Region 5 Chicago Regional Laboratory****Client:** Region 6, US EPA  
**Project:** R06 Deer Park PFAS**Project Manager:** Angela Ockrassa Davis  
**Project Number:** [none]**Sample ID:** 1904001-24      **Sampled:** Mar-30-19 10:10    **Matrix:** Water**Sample Name:** ITC-BB-12-20190330-15      **Sample Location/Comments:** FieldQC**Sample Comments:**

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	Apr-27-19 10:10	

**REVIEWED***By Amanda Wroble at 1:21 pm, Apr 01, 2019*

Reviewed By

Date



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190330-12 (1904001-08)

**Matrix: Water**

**Sampled: Mar-30-19 11:36**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.4	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.4	"	"	"	"	"
perfluorohexanoate	78.8			9.08	"	"	"	"	"
perfluoroheptanoate	17.7			9.08	"	"	"	"	"
perfluoroctanoate	14.2			9.08	"	"	"	"	"
perfluorononanoate	U			9.08	"	"	"	"	"
perfluorodecanoate	U			9.08	"	"	"	"	"
perfluoroundecanoate	U			9.08	"	"	"	"	"
perfluorododecanoate	U			9.08	"	"	"	"	"
perfluorotridecanoate	U			9.08	"	"	"	"	"
perfluorotetradecanoate	U			9.08	"	"	"	"	"
perfluorobutyl sulfonate	21.1			9.08	"	"	"	"	"
perfluorohexyl sulfonate	78.6			9.08	"	"	"	"	"
perfluoroctyl sulfonate	323			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.08	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	13.9			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluoroctane sulfonate (6:2 FTS)	2220			9.08	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.08	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	33.4			9.08	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.08	"	"	"	"	"
N-MeFOSAA	U			9.08	"	"	"	"	"
N-EtFOSAA	U			9.08	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.08	"	"	"	"	"
Surrogate	Result			%REC	%REC		Batch	Prepared	Analyzed
D5-N-EtFOSAA	103			79.0%	70-130	"	"	"	"
D3-N-MeFOSAA	102			78.1%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	134			106%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	252	Q		203%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	114			93.4%	70-130	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-03-20190330-12 (1904001-08)

Matrix: Water

Sampled: Mar-30-19 11:36

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	110			84.6%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	112			86.1%	70-130	"	"	"	
M8PFOS	113			90.3%	70-130	"	"	"	
M8PFOA	113			86.5%	70-130	"	"	"	
M7PFUnA	102			78.2%	70-130	"	"	"	
M6PFDA	106			81.3%	70-130	"	"	"	
M5PPPeA	113			86.5%	70-130	"	"	"	
M5PFHxA	117			89.9%	70-130	"	"	"	
M4PFHpA	114			87.3%	70-130	"	"	"	
M3PFHxS	114			92.4%	70-130	"	"	"	
M3PBS	115			94.8%	70-130	"	"	"	
M2PFTreA	27.0	Q		20.7%	70-130	"	"	"	
MPFDaA	90.0	Q		69.0%	70-130	"	"	"	
MPFBA	128			97.9%	70-130	"	"	"	

ITC-BB-04-20190329-11 (1904001-09)

Matrix: Water

Sampled: Mar-29-19 11:17

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			43.9	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			43.9	"	"	"	"	"
perfluorohexanoate	70.6			8.78	"	"	"	"	"
perfluoroheptanoate	14.8			8.78	"	"	"	"	"
perfluoroctanoate	14.3			8.78	"	"	"	"	"
perfluorononanoate	U			8.78	"	"	"	"	"
perfluorodecanoate	U			8.78	"	"	"	"	"
perfluoroundecanoate	U			8.78	"	"	"	"	"
perfluorododecanoate	U			8.78	"	"	"	"	"
perfluorotridecanoate	U			8.78	"	"	"	"	"
perfluorotetradecanoate	U			8.78	"	"	"	"	"
perfluorobutyl sulfonate	21.5			8.78	"	"	"	"	"
perfluorohexyl sulfonate	78.6			8.78	"	"	"	"	"
perfluoroctyl sulfonate	311			8.78	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.78	"	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-04-20190329-11 (1904001-09)**

**Matrix: Water**

**Sampled: Mar-29-19 11:17**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	14.5			8.78	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1860			8.78	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.78	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.78	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	30.3			8.78	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.78	"	"	"	"	"
N-MeFOSAA	U			8.78	"	"	"	"	"
N-EtFOSAA	U			8.78	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.78	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	94.5			78.1%	70-130	"	"	"	"
D3-N-MeFOSAA	94.0			77.6%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	130			111%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	232	Q		202%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	107			94.7%	70-130	"	"	"	"
M9PFNA	108			89.3%	70-130	"	"	"	"
M8PFOSA	106			87.6%	70-130	"	"	"	"
M8PFOS	108			93.0%	70-130	"	"	"	"
M8PFOA	110			91.0%	70-130	"	"	"	"
M7PFUnA	95.8			79.1%	70-130	"	"	"	"
M6PFDA	103			84.8%	70-130	"	"	"	"
M5PPeA	106			87.9%	70-130	"	"	"	"
M5PFHxA	114			94.5%	70-130	"	"	"	"
M4PFHpA	111			91.3%	70-130	"	"	"	"
M3PFHxS	110			96.1%	70-130	"	"	"	"
M3PFBS	113			101%	70-130	"	"	"	"
M2PTreA	7.30	Q		6.03%	70-130	"	"	"	"
MPFDaA	80.5	Q		66.5%	70-130	"	"	"	"
MPFBA	131			108%	70-130	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-04-20190330-11 (1904001-10)

Matrix: Water

Sampled: Mar-30-19 11:56

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.0	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.0	"	"	"	"	"
perfluorohexanoate	74.1			9.01	"	"	"	"	"
perfluoroheptanoate	15.1			9.01	"	"	"	"	"
perfluoroctanoate	13.6			9.01	"	"	"	"	"
perfluorononanoate	28.6			9.01	"	"	"	"	"
perfluorodecanoate	U			9.01	"	"	"	"	"
perfluoroundecanoate	U			9.01	"	"	"	"	"
perfluorododecanoate	U			9.01	"	"	"	"	"
perfluorotridecanoate	U			9.01	"	"	"	"	"
perfluorotetradecanoate	U			9.01	"	"	"	"	"
perfluorobutyl sulfonate	18.3			9.01	"	"	"	"	"
perfluorohexyl sulfonate	72.1			9.01	"	"	"	"	"
perfluoroctyl sulfonate	305			9.01	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.01	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	12.1			9.01	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	2020			9.01	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHps)	U			9.01	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.01	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	30.9			9.01	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.01	"	"	"	"	"
N-MeFOSAA	U			9.01	"	"	"	"	"
N-EtFOSAA	U			9.01	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.01	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	88.3	Q		68.8%	70-130		"	"	"
D3-N-MeFOSAA	87.2	Q		67.9%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	120			96.8%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	226	Q		185%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	98.0			81.7%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-04-20190330-11 (1904001-10)

Matrix: Water

Sampled: Mar-30-19 11:56

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	95.8			74.7%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	102			79.5%	70-130	"	"	"	
M8PFOS	98.2			80.0%	70-130	"	"	"	
M8PFOA	99.9			77.9%	70-130	"	"	"	
M7PFUnA	90.3			70.4%	70-130	"	"	"	
M6PFDA	93.4			72.8%	70-130	"	"	"	
M5PPPeA	98.9			77.1%	70-130	"	"	"	
M5PFHxA	109			84.7%	70-130	"	"	"	
M4PFHpA	101			78.6%	70-130	"	"	"	
M3PFHxS	102			83.8%	70-130	"	"	"	
M3PBS	103			86.7%	70-130	"	"	"	
M2PFTreA	15.0	Q		11.7%	70-130	"	"	"	
MPFDaA	77.5	Q		60.4%	70-130	"	"	"	
MPFBA	119			92.5%	70-130	"	"	"	

ITC-BB-05-20190329-11 (1904001-11)

Matrix: Water

Sampled: Mar-29-19 11:29

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.5	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			44.5	"	"	"	"	"
perfluorohexanoate	59.7			8.90	"	"	"	"	"
perfluoroheptanoate	14.2			8.90	"	"	"	"	"
perfluoroctanoate	11.8			8.90	"	"	"	"	"
perfluorononanoate	U			8.90	"	"	"	"	"
perfluorodecanoate	U			8.90	"	"	"	"	"
perfluoroundecanoate	U			8.90	"	"	"	"	"
perfluorododecanoate	U			8.90	"	"	"	"	"
perfluorotridecanoate	U			8.90	"	"	"	"	"
perfluorotetradecanoate	U			8.90	"	"	"	"	"
perfluorobutyl sulfonate	18.4			8.90	"	"	"	"	"
perfluorohexyl sulfonate	63.8			8.90	"	"	"	"	"
perfluoroctyl sulfonate	264			8.90	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.90	"	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-05-20190329-11 (1904001-11)

Matrix: Water

Sampled: Mar-29-19 11:29

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	13.3			8.90	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1500			8.90	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.90	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.90	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27.4			8.90	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.90	"	"	"	"	"
N-MeFOSAA	U			8.90	"	"	"	"	"
N-EtFOSAA	U			8.90	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.90	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	86.8	Q		69.6%	70-130	"	"	"	"
D3-N-MeFOSAA	84.3	Q		67.6%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	114			94.3%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	194	Q		164%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	94.4			81.0%	70-130	"	"	"	"
M9PFNA	93.1			74.6%	70-130	"	"	"	"
M8PFOSA	98.1			78.7%	70-130	"	"	"	"
M8PFOS	101			84.6%	70-130	"	"	"	"
M8PFOA	98.3			78.8%	70-130	"	"	"	"
M7PFUnA	86.7	Q		69.5%	70-130	"	"	"	"
M6PFDA	89.2			71.5%	70-130	"	"	"	"
M5PPeA	97.2			77.9%	70-130	"	"	"	"
M5PFHxA	102			81.7%	70-130	"	"	"	"
M4PFHpA	97.7			78.3%	70-130	"	"	"	"
M3PFHxS	97.8			82.9%	70-130	"	"	"	"
M3PFBS	103			89.3%	70-130	"	"	"	"
M2PTreA	17.4	Q		14.0%	70-130	"	"	"	"
MPFDaA	76.5	Q		61.3%	70-130	"	"	"	"
MPFBA	120			95.9%	70-130	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-05-20190330-11 (1904001-12)

Matrix: Water

Sampled: Mar-30-19 12:11

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.4	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.4	"	"	"	"	"
perfluorohexanoate	65.0			9.08	"	"	"	"	"
perfluoroheptanoate	15.0			9.08	"	"	"	"	"
perfluoroctanoate	13.1			9.08	"	"	"	"	"
perfluorononanoate	16.0			9.08	"	"	"	"	"
perfluorodecanoate	U			9.08	"	"	"	"	"
perfluoroundecanoate	U			9.08	"	"	"	"	"
perfluorododecanoate	U			9.08	"	"	"	"	"
perfluorotridecanoate	U			9.08	"	"	"	"	"
perfluorotetradecanoate	U			9.08	"	"	"	"	"
perfluorobutyl sulfonate	18.1			9.08	"	"	"	"	"
perfluorohexyl sulfonate	63.6			9.08	"	"	"	"	"
perfluoroctyl sulfonate	260			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.08	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	11.2			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1640			9.08	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHps)	U			9.08	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	29.3			9.08	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.08	"	"	"	"	"
N-MeFOSAA	U			9.08	"	"	"	"	"
N-EtFOSAA	U			9.08	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.08	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	89.5	Q		68.6%	70-130		"	"	"
D3-N-MeFOSAA	89.8	Q		68.8%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	118			93.5%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	200	Q		162%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	96.2			78.8%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-05-20190330-11 (1904001-12)

Matrix: Water

Sampled: Mar-30-19 12:11

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	94.7			72.6%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	103			78.9%	70-130	"	"	"	
M8PFOS	98.7			79.0%	70-130	"	"	"	
M8PFOA	99.3			76.1%	70-130	"	"	"	
M7PFUnA	89.5	Q		68.6%	70-130	"	"	"	
M6PFDA	93.3			71.5%	70-130	"	"	"	
M5PPPeA	101			77.4%	70-130	"	"	"	
M5PFHxA	109			83.3%	70-130	"	"	"	
M4PFHpA	98.7			75.6%	70-130	"	"	"	
M3PFHxS	100			81.3%	70-130	"	"	"	
M3PBS	108			88.9%	70-130	"	"	"	
M2PFTreA	28.1	Q		21.6%	70-130	"	"	"	
MPFDaA	82.6	Q		63.3%	70-130	"	"	"	
MPFBA	125			95.6%	70-130	"	"	"	

ITC-BB-07-20190329-11 (1904001-13)

Matrix: Water

Sampled: Mar-29-19 12:33

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.2	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			42.2	"	"	"	"	"
perfluorohexanoate	65.2			8.43	"	"	"	"	"
perfluoroheptanoate	14.7			8.43	"	"	"	"	"
perfluoroctanoate	12.5			8.43	"	"	"	"	"
perfluorononanoate	U			8.43	"	"	"	"	"
perfluorodecanoate	U			8.43	"	"	"	"	"
perfluoroundecanoate	U			8.43	"	"	"	"	"
perfluorododecanoate	U			8.43	"	"	"	"	"
perfluorotridecanoate	U			8.43	"	"	"	"	"
perfluorotetradecanoate	U			8.43	"	"	"	"	"
perfluorobutyl sulfonate	16.6			8.43	"	"	"	"	"
perfluorohexyl sulfonate	64.2			8.43	"	"	"	"	"
perfluoroctyl sulfonate	242			8.43	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.43	"	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS

Project Number: [none]

Project Manager: Matthew Loesel

**Reported:**

Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-07-20190329-11 (1904001-13)

**Matrix: Water**

**Sampled: Mar-29-19 12:33**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	13.0			8.43	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1510			8.43	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.43	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.43	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	25.5			8.43	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.43	"	"	"	"	"
N-MeFOSAA	U			8.43	"	"	"	"	"
N-EtFOSAA	U			8.43	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.43	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	62.7	Q		57.0%	70-130	"	"	"	"
D3-N-MeFOSAA	65.5	Q		59.6%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	89.2			83.9%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	173	Q		166%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	76.9			74.8%	70-130	"	"	"	"
M9PFNA	73.8	Q		67.2%	70-130	"	"	"	"
M8PFOSA	74.2	Q		67.5%	70-130	"	"	"	"
M8PFOS	76.6			72.8%	70-130	"	"	"	"
M8PFOA	79.2			72.1%	70-130	"	"	"	"
M7PFUnA	62.9	Q		57.3%	70-130	"	"	"	"
M6PFDA	69.0	Q		62.8%	70-130	"	"	"	"
M5PPPeA	80.4			73.1%	70-130	"	"	"	"
M5PFHxA	83.8			76.3%	70-130	"	"	"	"
M4PFHpA	79.0			71.9%	70-130	"	"	"	"
M3PFHxS	78.4			75.5%	70-130	"	"	"	"
M3PFBS	90.3			88.4%	70-130	"	"	"	"
M2PTreA	3.08	Q		2.80%	70-130	"	"	"	"
MPFDaA	48.7	Q		44.3%	70-130	"	"	"	"
MPFBA	100			91.1%	70-130	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-07-20190330-11 (1904001-14)**

**Matrix: Water**

**Sampled: Mar-30-19 12:42**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.4	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.4	"	"	"	"	"
perfluorohexanoate	62.5			9.08	"	"	"	"	"
perfluoroheptanoate	15.2			9.08	"	"	"	"	"
perfluoroctanoate	12.8			9.08	"	"	"	"	"
perfluorononanoate	U			9.08	"	"	"	"	"
perfluorodecanoate	U			9.08	"	"	"	"	"
perfluoroundecanoate	U			9.08	"	"	"	"	"
perfluorododecanoate	U			9.08	"	"	"	"	"
perfluorotridecanoate	U			9.08	"	"	"	"	"
perfluorotetradecanoate	U			9.08	"	"	"	"	"
perfluorobutyl sulfonate	18.3			9.08	"	"	"	"	"
perfluorohexyl sulfonate	64.7			9.08	"	"	"	"	"
perfluoroctyl sulfonate	246			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.08	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	11.4			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1550			9.08	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHps)	U			9.08	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.08	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27.5			9.08	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.08	"	"	"	"	"
N-MeFOSAA	U			9.08	"	"	"	"	"
N-EtFOSAA	U			9.08	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.08	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	85.6	Q		65.5%	70-130		"	"	"
D3-N-MeFOSAA	85.0	Q		65.0%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	110			87.2%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	193	Q		156%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	92.0			75.3%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-07-20190330-11 (1904001-14)

Matrix: Water

Sampled: Mar-30-19 12:42

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	90.7	Q		69.4%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	95.7			73.2%	70-130	"	"	"	
M8PFOS	94.5			75.6%	70-130	"	"	"	
M8PFOA	95.9			73.4%	70-130	"	"	"	
M7PFUnA	86.8	Q		66.4%	70-130	"	"	"	
M6PFDA	87.7	Q		67.1%	70-130	"	"	"	
M5PPPeA	97.9			74.9%	70-130	"	"	"	
M5PFHxA	103			78.5%	70-130	"	"	"	
M4PFHpA	93.7			71.7%	70-130	"	"	"	
M3PFHxS	95.5			77.2%	70-130	"	"	"	
M3PBS	103			84.7%	70-130	"	"	"	
M2PFTreA	19.6	Q		15.0%	70-130	"	"	"	
MPFDaA	76.9	Q		58.8%	70-130	"	"	"	
MPFBA	122			93.5%	70-130	"	"	"	

ITC-BB-09-20190329-11 (1904001-15)

Matrix: Water

Sampled: Mar-29-19 12:49

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.2	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			42.2	"	"	"	"	"
perfluorohexanoate	60.4			8.45	"	"	"	"	"
perfluoroheptanoate	14.8			8.45	"	"	"	"	"
perfluoroctanoate	11.2			8.45	"	"	"	"	"
perfluorononanoate	U			8.45	"	"	"	"	"
perfluorodecanoate	U			8.45	"	"	"	"	"
perfluoroundecanoate	U			8.45	"	"	"	"	"
perfluorododecanoate	U			8.45	"	"	"	"	"
perfluorotridecanoate	U			8.45	"	"	"	"	"
perfluorotetradecanoate	U			8.45	"	"	"	"	"
perfluorobutyl sulfonate	17.7			8.45	"	"	"	"	"
perfluorohexyl sulfonate	64.0			8.45	"	"	"	"	"
perfluoroctyl sulfonate	207			8.45	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.45	"	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-09-20190329-11 (1904001-15)

Matrix: Water

Sampled: Mar-29-19 12:49

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	10.9			8.45	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1360			8.45	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.45	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.45	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	24.7			8.45	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.45	"	"	"	"	"
N-MeFOSAA	U			8.45	"	"	"	"	"
N-EtFOSAA	U			8.45	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.45	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	70.4	Q		63.8%	70-130	"	"	"	"
D3-N-MeFOSAA	70.6	Q		64.0%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	94.7			88.7%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	165	Q		157%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	81.6			79.1%	70-130	"	"	"	"
M9PFNA	78.8			71.4%	70-130	"	"	"	"
M8PFOSA	79.3			71.9%	70-130	"	"	"	"
M8PFOS	76.7			72.6%	70-130	"	"	"	"
M8PFOA	83.1			75.3%	70-130	"	"	"	"
M7PFUnA	70.6	Q		64.0%	70-130	"	"	"	"
M6PFDA	75.6	Q		68.5%	70-130	"	"	"	"
M5PPeA	84.2			76.3%	70-130	"	"	"	"
M5PFHxA	86.0			77.9%	70-130	"	"	"	"
M4PFHpA	83.7			75.9%	70-130	"	"	"	"
M3PFHxS	79.1			75.8%	70-130	"	"	"	"
M3PFBS	89.6			87.4%	70-130	"	"	"	"
M2PTreA	4.94	Q		4.48%	70-130	"	"	"	"
MPFDaA	55.8	Q		50.6%	70-130	"	"	"	"
MPFBA	105			95.3%	70-130	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-09-20190330-11 (1904001-16)**

**Matrix: Water**

**Sampled: Mar-30-19 13:10**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.8	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			44.8	"	"	"	"	"
perfluorohexanoate	55.5			8.96	"	"	"	"	"
perfluoroheptanoate	16.0			8.96	"	"	"	"	"
perfluoroctanoate	10.4			8.96	"	"	"	"	"
perfluorononanoate	U			8.96	"	"	"	"	"
perfluorodecanoate	U			8.96	"	"	"	"	"
perfluoroundecanoate	U			8.96	"	"	"	"	"
perfluorododecanoate	U			8.96	"	"	"	"	"
perfluorotridecanoate	U			8.96	"	"	"	"	"
perfluorotetradecanoate	U			8.96	"	"	"	"	"
perfluorobutyl sulfonate	16.3			8.96	"	"	"	"	"
perfluorohexyl sulfonate	55.1			8.96	"	"	"	"	"
perfluoroctyl sulfonate	187			8.96	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.96	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	10.6			8.96	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1240			8.96	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHps)	U			8.96	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.96	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	22.7			8.96	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.96	"	"	"	"	"
N-MeFOSAA	U			8.96	"	"	"	"	"
N-EtFOSAA	U			8.96	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.96	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	81.4	Q		64.3%	70-130		"	"	"
D3-N-MeFOSAA	78.2	Q		61.7%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	105			85.8%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	170	Q		142%	70-130		"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	86.9			73.4%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-09-20190330-11 (1904001-16)

Matrix: Water

Sampled: Mar-30-19 13:10

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	85.6	Q		67.6%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	90.8			71.7%	70-130	"	"	"	
M8PFOS	90.3			74.5%	70-130	"	"	"	
M8PFOA	90.5			71.5%	70-130	"	"	"	
M7PFUnA	81.1	Q		64.1%	70-130	"	"	"	
M6PFDA	85.4	Q		67.4%	70-130	"	"	"	
M5PPPeA	93.8			74.1%	70-130	"	"	"	
M5PFHxA	96.7			76.3%	70-130	"	"	"	
M4PFHpA	91.2			72.0%	70-130	"	"	"	
M3PFHxS	93.4			78.0%	70-130	"	"	"	
M3PBS	101			85.5%	70-130	"	"	"	
M2PFTreA	10.1	Q		7.95%	70-130	"	"	"	
MPFDaA	71.3	Q		56.3%	70-130	"	"	"	
MPFBA	120			94.6%	70-130	"	"	"	

ITC-BB-10-20190329-11 (1904001-17)

Matrix: Water

Sampled: Mar-29-19 13:31

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.2	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.2	"	"	"	"	"
perfluorohexanoate	48.0			9.05	"	"	"	"	"
perfluoroheptanoate	10.8			9.05	"	"	"	"	"
perfluoroctanoate	10.5			9.05	"	"	"	"	"
perfluorononanoate	U			9.05	"	"	"	"	"
perfluorodecanoate	U			9.05	"	"	"	"	"
perfluoroundecanoate	U			9.05	"	"	"	"	"
perfluorododecanoate	U			9.05	"	"	"	"	"
perfluorotridecanoate	U			9.05	"	"	"	"	"
perfluorotetradecanoate	U			9.05	"	"	"	"	"
perfluorobutyl sulfonate	15.0			9.05	"	"	"	"	"
perfluorohexyl sulfonate	38.9			9.05	"	"	"	"	"
perfluoroctyl sulfonate	140			9.05	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.05	"	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-10-20190329-11 (1904001-17)

Matrix: Water

Sampled: Mar-29-19 13:31

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.05	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	918			9.05	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.05	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.05	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	19.8			9.05	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.05	"	"	"	"	"
N-MeFOSAA	U			9.05	"	"	"	"	"
N-EtFOSAA	U			9.05	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.05	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	82.7	Q		63.9%	70-130	"	"	"	"
D3-N-MeFOSAA	80.6	Q		62.2%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	108			86.4%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	150			122%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	89.0			73.5%	70-130	"	"	"	"
M9PFNA	86.9	Q		67.1%	70-130	"	"	"	"
M8PFOSA	81.2	Q		62.7%	70-130	"	"	"	"
M8PFOS	79.1	Q		63.8%	70-130	"	"	"	"
M8PFOA	90.2	Q		69.6%	70-130	"	"	"	"
M7PFUnA	83.8	Q		64.7%	70-130	"	"	"	"
M6PFDA	86.5	Q		66.8%	70-130	"	"	"	"
M5PPeA	88.1	Q		68.0%	70-130	"	"	"	"
M5PFHxA	94.8			73.2%	70-130	"	"	"	"
M4PFHpA	91.9			70.9%	70-130	"	"	"	"
M3PFHxS	81.9	Q		66.8%	70-130	"	"	"	"
M3PFBS	89.3			74.2%	70-130	"	"	"	"
M2PTreA	29.0	Q		22.4%	70-130	"	"	"	"
MPFDaA	77.5	Q		59.9%	70-130	"	"	"	"
MPFBA	107			82.6%	70-130	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-10-20190329-15 (1904001-18)**

**Matrix: Water**

**Sampled: Mar-29-19 15:00**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			46.3	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			46.3	"	"	"	"	"
perfluorohexanoate	U			9.26	"	"	"	"	"
perfluoroheptanoate	U			9.26	"	"	"	"	"
perfluoroctanoate	U			9.26	"	"	"	"	"
perfluorononanoate	U			9.26	"	"	"	"	"
perfluorodecanoate	U			9.26	"	"	"	"	"
perfluoroundecanoate	U			9.26	"	"	"	"	"
perfluorododecanoate	U			9.26	"	"	"	"	"
perfluorotridecanoate	U			9.26	"	"	"	"	"
perfluorotetradecanoate	U			9.26	"	"	"	"	"
perfluorobutyl sulfonate	U			9.26	"	"	"	"	"
perfluorohexyl sulfonate	U			9.26	"	"	"	"	"
perfluoroctyl sulfonate	U			9.26	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.26	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			9.26	"	"	"	"	"
1H,1H,2H,2H-perfluoroctane sulfonate (6:2 FTS)	U			9.26	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.26	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.26	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.26	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.26	"	"	"	"	"
N-MeFOSAA	U			9.26	"	"	"	"	"
N-EtFOSAA	U			9.26	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.26	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	112			82.1%	70-130		"	"	"
D3-N-MeFOSAA	110			80.3%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	110			83.3%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	108			83.7%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	100			78.5%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-10-20190329-15 (1904001-18)

Matrix: Water

Sampled: Mar-29-19 15:00

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	112			82.2%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	111			81.6%	70-130	"	"	"	
M8PFOS	110			84.2%	70-130	"	"	"	
M8PFOA	111			81.3%	70-130	"	"	"	
M7PFUnA	108			79.5%	70-130	"	"	"	
M6PFDA	107			78.2%	70-130	"	"	"	
M5PPPeA	114			83.5%	70-130	"	"	"	
M5PFHxA	119			87.3%	70-130	"	"	"	
M4PFHpA	112			82.4%	70-130	"	"	"	
M3PFHxS	112			86.7%	70-130	"	"	"	
M3PBS	116			91.3%	70-130	"	"	"	
M2PFTreA	93.4	Q		68.5%	70-130	"	"	"	
MPFDaA	109			79.6%	70-130	"	"	"	
MPFBA	133			97.4%	70-130	"	"	"	

ITC-BB-10-20190330-11 (1904001-19)

Matrix: Water

Sampled: Mar-30-19 14:08

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			46.7	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			46.7	"	"	"	"	"
perfluorohexanoate	56.8			9.33	"	"	"	"	"
perfluoroheptanoate	12.1			9.33	"	"	"	"	"
perfluoroctanoate	11.9			9.33	"	"	"	"	"
perfluorononanoate	U			9.33	"	"	"	"	"
perfluorodecanoate	U			9.33	"	"	"	"	"
perfluoroundecanoate	U			9.33	"	"	"	"	"
perfluorododecanoate	U			9.33	"	"	"	"	"
perfluorotridecanoate	U			9.33	"	"	"	"	"
perfluorotetradecanoate	U			9.33	"	"	"	"	"
perfluorobutyl sulfonate	18.9			9.33	"	"	"	"	"
perfluorohexyl sulfonate	40.0			9.33	"	"	"	"	"
perfluoroctyl sulfonate	152			9.33	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.33	"	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-10-20190330-11 (1904001-19)**

**Matrix: Water**

**Sampled: Mar-30-19 14:08**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.33	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	967			9.33	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.33	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.33	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	18.1			9.33	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.33	"	"	"	"	"
N-MeFOSAA	U			9.33	"	"	"	"	"
N-EtFOSAA	U			9.33	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.33	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	105			75.8%	70-130	"	"	"	"
D3-N-MeFOSAA	103			74.5%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	133			98.9%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	178	Q		136%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	110			84.7%	70-130	"	"	"	"
M9PFNA	109			78.9%	70-130	"	"	"	"
M8PFOSA	111			80.3%	70-130	"	"	"	"
M8PFOS	114			85.6%	70-130	"	"	"	"
M8PFOA	114			82.0%	70-130	"	"	"	"
M7PFUnA	105			75.6%	70-130	"	"	"	"
M6PFDA	107			77.1%	70-130	"	"	"	"
M5PPeA	115			83.3%	70-130	"	"	"	"
M5PFHxA	117			84.6%	70-130	"	"	"	"
M4PFHpA	114			82.1%	70-130	"	"	"	"
M3PFHxS	112			85.5%	70-130	"	"	"	"
M3PFBS	116			90.1%	70-130	"	"	"	"
M2PTreA	48.0	Q		34.6%	70-130	"	"	"	"
MPFDaA	98.4			71.0%	70-130	"	"	"	"
MPFBA	143			103%	70-130	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-11-20190329-11 (1904001-20)

Matrix: Water

Sampled: Mar-29-19 12:09

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.8	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			42.8	"	"	"	"	"
perfluorohexanoate	64.5			8.57	"	"	"	"	"
perfluoroheptanoate	15.9			8.57	"	"	"	"	"
perfluoroctanoate	10.7			8.57	"	"	"	"	"
perfluorononanoate	U			8.57	"	"	"	"	"
perfluorodecanoate	U			8.57	"	"	"	"	"
perfluoroundecanoate	U			8.57	"	"	"	"	"
perfluorododecanoate	U			8.57	"	"	"	"	"
perfluorotridecanoate	U			8.57	"	"	"	"	"
perfluorotetradecanoate	U			8.57	"	"	"	"	"
perfluorobutyl sulfonate	18.2			8.57	"	"	"	"	"
perfluorohexyl sulfonate	56.9			8.57	"	"	"	"	"
perfluoroctyl sulfonate	218			8.57	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.57	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	11.3			8.57	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1360			8.57	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHps)	U			8.57	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.57	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	23.1			8.57	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.57	"	"	"	"	"
N-MeFOSAA	U			8.57	"	"	"	"	"
N-EtFOSAA	U			8.57	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.57	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	73.5	Q		64.4%	70-130		"	"	"
D3-N-MeFOSAA	74.7	Q		65.4%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	98.2			88.9%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	173	Q		160%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	83.2			78.0%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-11-20190329-11 (1904001-20)

Matrix: Water

Sampled: Mar-29-19 12:09

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	82.2			72.0%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	86.2			75.5%	70-130	"	"	"	
M8PFOS	81.6			74.7%	70-130	"	"	"	
M8PFOA	88.7			77.7%	70-130	"	"	"	
M7PFUnA	74.3	Q		65.1%	70-130	"	"	"	
M6PFDA	81.6			71.5%	70-130	"	"	"	
M5PPPeA	91.2			79.9%	70-130	"	"	"	
M5PFHxA	93.8			82.2%	70-130	"	"	"	
M4PFHpA	86.1			75.4%	70-130	"	"	"	
M3PFHxS	85.1			78.8%	70-130	"	"	"	
M3PBS	93.0			87.7%	70-130	"	"	"	
M2PFTreA	5.28	Q		4.62%	70-130	"	"	"	
MPFDaA	58.5	Q		51.3%	70-130	"	"	"	
MPFBA	112			98.3%	70-130	"	"	"	

ITC-BB-11-20190330-11 (1904001-21)

Matrix: Water

Sampled: Mar-30-19 12:26

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			46.0	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			46.0	"	"	"	"	"
perfluorohexanoate	62.6			9.21	"	"	"	"	"
perfluoroheptanoate	17.2			9.21	"	"	"	"	"
perfluoroctanoate	11.6			9.21	"	"	"	"	"
perfluorononanoate	U			9.21	"	"	"	"	"
perfluorodecanoate	U			9.21	"	"	"	"	"
perfluoroundecanoate	U			9.21	"	"	"	"	"
perfluorododecanoate	U			9.21	"	"	"	"	"
perfluorotridecanoate	U			9.21	"	"	"	"	"
perfluorotetradecanoate	U			9.21	"	"	"	"	"
perfluorobutyl sulfonate	17.2			9.21	"	"	"	"	"
perfluorohexyl sulfonate	60.3			9.21	"	"	"	"	"
perfluoroctyl sulfonate	218			9.21	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.21	"	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS

Project Number: [none]

Project Manager: Matthew Loesel

**Reported:**

Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-11-20190330-11 (1904001-21)

**Matrix: Water**

**Sampled: Mar-30-19 12:26**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	11.0			9.21	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1440			9.21	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.21	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.21	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	25.7			9.21	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.21	"	"	"	"	"
N-MeFOSAA	U			9.21	"	"	"	"	"
N-EtFOSAA	U			9.21	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.21	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	87.8	Q		65.2%	70-130	"	"	"	"
D3-N-MeFOSAA	88.6	Q		65.8%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	118			90.8%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	189	Q		148%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	93.7			74.4%	70-130	"	"	"	"
M9PFNA	93.5	Q		69.5%	70-130	"	"	"	"
M8PFOSA	98.6			73.2%	70-130	"	"	"	"
M8PFOS	102			79.3%	70-130	"	"	"	"
M8PFOA	98.8			73.4%	70-130	"	"	"	"
M7PFUnA	89.3	Q		66.4%	70-130	"	"	"	"
M6PFDA	92.3	Q		68.6%	70-130	"	"	"	"
M5PPeA	103			76.5%	70-130	"	"	"	"
M5PFHxA	107			79.5%	70-130	"	"	"	"
M4PFHpA	99.3			73.8%	70-130	"	"	"	"
M3PFHxS	98.9			77.6%	70-130	"	"	"	"
M3PFBS	109			87.2%	70-130	"	"	"	"
M2PTreA	23.1	Q		17.2%	70-130	"	"	"	"
MPFDaA	78.8	Q		58.5%	70-130	"	"	"	"
MPFBA	128			95.2%	70-130	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-12-20190329-11 (1904001-22)

**Matrix: Water**

**Sampled: Mar-29-19 10:04**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			50.0	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			50.0	"	"	"	"	"
perfluorohexanoate	46.3			10.0	"	"	"	"	"
perfluoroheptanoate	11.5			10.0	"	"	"	"	"
perfluoroctanoate	11.4			10.0	"	"	"	"	"
perfluorononanoate	U			10.0	"	"	"	"	"
perfluorodecanoate	U			10.0	"	"	"	"	"
perfluoroundecanoate	U			10.0	"	"	"	"	"
perfluorododecanoate	U			10.0	"	"	"	"	"
perfluorotridecanoate	U			10.0	"	"	"	"	"
perfluorotetradecanoate	U			10.0	"	"	"	"	"
perfluorobutyl sulfonate	18.8			10.0	"	"	"	"	"
perfluorohexyl sulfonate	53.1			10.0	"	"	"	"	"
perfluoroctyl sulfonate	172			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	953			10.0	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	21.2			10.0	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			10.0	"	"	"	"	"
N-MeFOSAA	U			10.0	"	"	"	"	"
N-EtFOSAA	U			10.0	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	99.8	Q		62.4%	70-130		"	"	"
D3-N-MeFOSAA	99.4	Q		62.1%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	130			84.2%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	180			118%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	109			73.0%	70-130		"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-12-20190329-11 (1904001-22)

Matrix: Water

Sampled: Mar-29-19 10:04

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
M9PFNA	108	Q		67.6%	70-130	B19D002	Apr-01-19	Apr-02-19	
M8PFOSA	112			70.0%	70-130	"	"	"	
M8PFOS	112			73.2%	70-130	"	"	"	
M8PFOA	114			71.2%	70-130	"	"	"	
M7PFUnA	102	Q		63.8%	70-130	"	"	"	
M6PFDA	108	Q		67.4%	70-130	"	"	"	
M5PPPeA	115			71.9%	70-130	"	"	"	
M5PFHxA	121			75.9%	70-130	"	"	"	
M4PFHpA	113			70.5%	70-130	"	"	"	
M3PFHxS	114			75.1%	70-130	"	"	"	
M3PBS	126			84.8%	70-130	"	"	"	
M2PFTreA	31.7	Q		19.8%	70-130	"	"	"	
MPFDaA	94.5	Q		59.1%	70-130	"	"	"	
MPFBA	146			91.4%	70-130	"	"	"	

ITC-BB-12-20190330-11 (1904001-23)

Matrix: Water

Sampled: Mar-30-19 10:34

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.2	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			45.2	"	"	"	"	"
perfluorohexanoate	42.2			9.03	"	"	"	"	"
perfluoroheptanoate	12.0			9.03	"	"	"	"	"
perfluoroctanoate	11.2			9.03	"	"	"	"	"
perfluorononanoate	U			9.03	"	"	"	"	"
perfluorodecanoate	U			9.03	"	"	"	"	"
perfluoroundecanoate	U			9.03	"	"	"	"	"
perfluorododecanoate	U			9.03	"	"	"	"	"
perfluorotridecanoate	U			9.03	"	"	"	"	"
perfluorotetradecanoate	U			9.03	"	"	"	"	"
perfluorobutyl sulfonate	17.4			9.03	"	"	"	"	"
perfluorohexyl sulfonate	48.8			9.03	"	"	"	"	"
perfluoroctyl sulfonate	164			9.03	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.03	"	"	"	"	"



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

**ITC-BB-12-20190330-11 (1904001-23)**

**Matrix: Water**

**Sampled: Mar-30-19 10:34**

**Received: Apr-01-19 06:30**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	9.47			9.03	ng/L	1	B19D002	Apr-01-19	Apr-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	918			9.03	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.03	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.03	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	19.0			9.03	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.03	"	"	"	"	"
N-MeFOSAA	U			9.03	"	"	"	"	"
N-EtFOSAA	U			9.03	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.03	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	87.3	Q		67.6%	70-130	"	"	"	"
D3-N-MeFOSAA	88.6	Q		68.7%	70-130	"	"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	120			96.3%	70-130	"	"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	164	Q		134%	70-130	"	"	"	"
perfluoro(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	99.4			82.4%	70-130	"	"	"	"
M9PFNA	96.1			74.4%	70-130	"	"	"	"
M8PFOSA	101			78.3%	70-130	"	"	"	"
M8PFOS	104			83.9%	70-130	"	"	"	"
M8PFOA	99.7			77.2%	70-130	"	"	"	"
M7PFUnA	89.7	Q		69.5%	70-130	"	"	"	"
M6PFDA	93.9			72.7%	70-130	"	"	"	"
M5PPeA	102			79.3%	70-130	"	"	"	"
M5PFHxA	108			83.6%	70-130	"	"	"	"
M4PFHpA	102			78.9%	70-130	"	"	"	"
M3PFHxS	100			82.3%	70-130	"	"	"	"
M3PFBS	108			90.3%	70-130	"	"	"	"
M2PTreA	16.0	Q		12.4%	70-130	"	"	"	"
MPFDaA	79.4	Q		61.5%	70-130	"	"	"	"
MPFBA	130			101%	70-130	"	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-12-20190330-15 (1904001-24)

Matrix: Water

Sampled: Mar-30-19 10:10

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			50.0	ng/L	1	B19D002	Apr-01-19	Apr-02-19
perfluoropentanoate	U			50.0	"	"	"	"	"
perfluorohexanoate	U			10.0	"	"	"	"	"
perfluoroheptanoate	U			10.0	"	"	"	"	"
perfluoroctanoate	U			10.0	"	"	"	"	"
perfluorononanoate	U			10.0	"	"	"	"	"
perfluorodecanoate	U			10.0	"	"	"	"	"
perfluoroundecanoate	U			10.0	"	"	"	"	"
perfluorododecanoate	U			10.0	"	"	"	"	"
perfluorotridecanoate	U			10.0	"	"	"	"	"
perfluorotetradecanoate	U			10.0	"	"	"	"	"
perfluorobutyl sulfonate	U			10.0	"	"	"	"	"
perfluorohexyl sulfonate	U			10.0	"	"	"	"	"
perfluoroctyl sulfonate	U			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			10.0	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			10.0	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			10.0	"	"	"	"	"
N-MeFOSAA	U			10.0	"	"	"	"	"
N-EtFOSAA	U			10.0	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	133			83.3%	70-130		"	"	"
D3-N-MeFOSAA	130			81.3%	70-130		"	"	"
perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	130			84.2%	70-130		"	"	"
perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	132			86.8%	70-130		"	"	"
perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:2 FTS	126			84.4%	70-130		"	"	"



# Environmental Protection Agency Region 5

## Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

### Analysis by LC MS MS

#### US EPA Region 5 Chicago Regional Laboratory

ITC-BB-12-20190330-15 (1904001-24)

Matrix: Water

Sampled: Mar-30-19 10:10

Received: Apr-01-19 06:30

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
<i>M9PFNA</i>	133			83.1%		70-130	B19D002	Apr-01-19	Apr-02-19
<i>M8PFOSA</i>	135			84.3%		70-130	"	"	"
<i>M8PFOS</i>	125			81.5%		70-130	"	"	"
<i>M8PFOA</i>	133			82.9%		70-130	"	"	"
<i>M7PFUnA</i>	133			83.0%		70-130	"	"	"
<i>M6PFDA</i>	128			79.9%		70-130	"	"	"
<i>M5PPPeA</i>	138			86.5%		70-130	"	"	"
<i>M5PFHxA</i>	138			86.4%		70-130	"	"	"
<i>M4PFHpA</i>	134			84.0%		70-130	"	"	"
<i>M3PFHxS</i>	129			85.4%		70-130	"	"	"
<i>M3PFBs</i>	136			91.5%		70-130	"	"	"
<i>M2PFTreA</i>	129			80.5%		70-130	"	"	"
<i>MPFDaA</i>	133			82.9%		70-130	"	"	"
<i>MPFBA</i>	159			99.7%		70-130	"	"	"



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

#### Blank (B19D002-BLK1)

Prepared: Apr-01-19 Analyzed: Apr-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	U			50.0	ng/L						
perfluoropentanoate	U			50.0	"						
perfluorohexanoate	U			10.0	"						
perfluoroheptanoate	U			10.0	"						
perfluoroctanoate	U			10.0	"						
perfluorononanoate	U			10.0	"						
perfluorodecanoate	U			10.0	"						
perfluoroundecanoate	U			10.0	"						
perfluorododecanoate	U			10.0	"						
perfluorotridecanoate	U			10.0	"						
perfluorotetradecanoate	U			10.0	"						
perfluorobutyl sulfonate	U			10.0	"						
perfluorohexyl sulfonate	U			10.0	"						
perfluoroctyl sulfonate	U			10.0	"						
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	"						
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"						
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			10.0	"						
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"						
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"						
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			10.0	"						
perfluoro-1-nananesulfonate (PFNS)	U			10.0	"						
N-MeFOSAA	U			10.0	"						
N-EtFOSAA	U			10.0	"						
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"						
Surrogate: D5-N-EtFOSAA	164				"	160.0		103%	70-130		
Surrogate: D3-N-MeFOSAA	159				"	160.0		99.4%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	178				"	154.9		115%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	172				"	151.8		113%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Blank (B19D002-BLK1)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate:	157				ng/L	149.6		105%	70-130		
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:					"	160.0		101%	70-130		
Surrogate: M9PFNA	162				"	160.0		101%	70-130		
Surrogate: M8PFOSA	167				"	160.0		104%	70-130		
Surrogate: M8PFOS	156				"	153.1		102%	70-130		
Surrogate: M8PFOA	161				"	160.0		101%	70-130		
Surrogate: M7PFUnA	162				"	160.0		101%	70-130		
Surrogate: M6PFDA	161				"	160.0		101%	70-130		
Surrogate: M5PFPeA	160				"	160.0		100%	70-130		
Surrogate: M5PFHxA	157				"	160.0		98.0%	70-130		
Surrogate: M4PFHpA	156				"	160.0		97.6%	70-130		
Surrogate: M3PFHxS	156				"	151.4		103%	70-130		
Surrogate: M3PFBS	151				"	148.6		102%	70-130		
Surrogate: M2PFTreA	128				"	160.0		80.2%	70-130		
Surrogate: MPFDaA	159				"	160.0		99.2%	70-130		
Surrogate: MPFBA	168				"	160.0		105%	70-130		

### Blank (B19D002-BLK2)

Blank (B19D002-BLK2)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	U			50.0	ng/L						
perfluoropentanoate	U			50.0	"						
perfluorohexanoate	U			10.0	"						
perfluoroheptanoate	U			10.0	"						
perfluorooctanoate	U			10.0	"						
perfluorononanoate	U			10.0	"						
perfluorodecanoate	U			10.0	"						
perfluoroundecanoate	U			10.0	"						
perfluorododecanoate	U			10.0	"						
perfluorotridecanoate	U			10.0	"						
perfluorotetradecanoate	U			10.0	"						
perfluorobutyl sulfonate	U			10.0	"						
perfluorohexyl sulfonate	U			10.0	"						
perfluoroctyl sulfonate	U			10.0	"						



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

Blank (B19D002-BLK2)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	ng/L						
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"						
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			10.0	"						
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"						
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"						
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			10.0	"						
perfluoro-1-nonanesulfonate (PFNS)	U			10.0	"						
N-MeFOSAA	U			10.0	"						
N-EtFOSAA	U			10.0	"						
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"						
Surrogate: D5-N-EtFOSAA	165			"	160.0		103%	70-130			
Surrogate: D3-N-MeFOSAA	170			"	160.0		106%	70-130			
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	184			"	154.9		119%	70-130			
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	172			"	151.8		114%	70-130			
Surrogate: perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:	164			"	149.6		110%	70-130			
Surrogate: M9PFNA	165			"	160.0		103%	70-130			
Surrogate: M8PFOSA	169			"	160.0		105%	70-130			
Surrogate: M8PFOS	165			"	153.1		108%	70-130			
Surrogate: M8PFOA	167			"	160.0		105%	70-130			
Surrogate: M7PFUnA	169			"	160.0		106%	70-130			
Surrogate: M6PFDA	166			"	160.0		103%	70-130			
Surrogate: M5PFPeA	162			"	160.0		102%	70-130			
Surrogate: M5PFHxA	160			"	160.0		100%	70-130			
Surrogate: M4PFHpA	160			"	160.0		99.9%	70-130			
Surrogate: M3PFHxS	161			"	151.4		106%	70-130			
Surrogate: M3PFBs	155			"	148.6		104%	70-130			
Surrogate: M2PFTreA	137			"	160.0		85.4%	70-130			
Surrogate: MPFDoA	165			"	160.0		103%	70-130			
Surrogate: MPFBA	173			"	160.0		108%	70-130			



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

#### LCS (B19D002-BS1)

Prepared: Apr-01-19 Analyzed: Apr-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	764			50.0	ng/L	800.0		95.4%	70-130		
perfluoropentanoate	730			50.0	"	800.0		91.2%	70-130		
perfluorohexanoate	149			10.0	"	160.0		92.9%	70-130		
perfluoroheptanoate	150			10.0	"	160.0		93.7%	70-130		
perfluoroctanoate	149			10.0	"	160.0		93.2%	70-130		
perfluorononanoate	150			10.0	"	160.0		94.0%	70-130		
perfluorodecanoate	150			10.0	"	160.0		94.0%	70-130		
perfluoroundecanoate	153			10.0	"	160.0		95.4%	70-130		
perfluorododecanoate	150			10.0	"	160.0		94.0%	70-130		
perfluorotridecanoate	146			10.0	"	160.0		91.3%	70-130		
perfluorotetradecanoate	144			10.0	"	160.0		89.7%	70-130		
perfluorobutyl sulfonate	158			10.0	"	160.0		98.8%	70-130		
perfluorohexyl sulfonate	162			10.0	"	160.0		101%	70-130		
perfluoroctyl sulfonate	142			10.0	"	160.0		88.8%	70-130		
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	159			10.0	"	160.0		99.4%	70-130		
perfluoro-1-pentanesulfonate (PFPeS)	146			10.0	"	160.0		91.5%	70-130		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	137			10.0	"	160.0		85.8%	70-130		
perfluoro-1-heptanesulfonate (PFHpS)	146			10.0	"	160.0		91.0%	70-130		
perfluoro-1-octanesulfonamide (FOSA)	150			10.0	"	160.0		93.5%	70-130		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	164			10.0	"	160.0		103%	70-130		
perfluoro-1-nonanesulfonate (PFNS)	145			10.0	"	160.0		90.7%	70-130		
N-MeFOSAA	150			10.0	"	160.0		93.8%	70-130		
N-EtFOSAA	151			10.0	"	160.0		94.6%	70-130		
perfluoro-1-decanesulfonate (PFDS)	147			10.0	"	160.0		91.8%	70-130		
Surrogate: D5-N-EtFOSAA	161				"	160.0		101%	70-130		
Surrogate: D3-N-MeFOSAA	158				"	160.0		98.5%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	159				"	154.9		103%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	158				"	151.8		104%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

LCS (B19D002-BS1)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate:	150				ng/L	149.6		100%	70-130		
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:					"	160.0					
Surrogate: M9PFNA	155				"	160.0		96.8%	70-130		
Surrogate: M8PFOSA	156				"	160.0		97.8%	70-130		
Surrogate: M8PFOS	149				"	153.1		97.4%	70-130		
Surrogate: M8PFOA	151				"	160.0		94.5%	70-130		
Surrogate: M7PFUnA	155				"	160.0		96.7%	70-130		
Surrogate: M6PFDA	154				"	160.0		96.2%	70-130		
Surrogate: M5PFPeA	151				"	160.0		94.2%	70-130		
Surrogate: M5PFHxA	150				"	160.0		93.8%	70-130		
Surrogate: M4PFHpA	152				"	160.0		95.0%	70-130		
Surrogate: M3PFHxS	149				"	151.4		98.2%	70-130		
Surrogate: M3PFBS	142				"	148.6		95.7%	70-130		
Surrogate: M2PFTreA	144				"	160.0		89.8%	70-130		
Surrogate: MPFDaA	153				"	160.0		95.6%	70-130		
Surrogate: MPFBA	158				"	160.0		98.9%	70-130		

### LCS Dup (B19D002-BSD1)

		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	818			50.0	ng/L	800.0		102%	70-130	6.83	30
perfluoropentanoate	762			50.0	"	800.0		95.2%	70-130	4.28	30
perfluorohexanoate	155			10.0	"	160.0		96.6%	70-130	3.90	30
perfluoroheptanoate	154			10.0	"	160.0		96.0%	70-130	2.42	30
perfluoroctanoate	152			10.0	"	160.0		95.2%	70-130	2.12	30
perfluorononanoate	157			10.0	"	160.0		97.8%	70-130	4.01	30
perfluorodecanoate	158			10.0	"	160.0		98.6%	70-130	4.79	30
perfluoroundecanoate	157			10.0	"	160.0		97.9%	70-130	2.52	30
perfluorododecanoate	155			10.0	"	160.0		97.1%	70-130	3.27	30
perfluorotridecanoate	148			10.0	"	160.0		92.7%	70-130	1.48	30
perfluorotetradecanoate	134			10.0	"	160.0		83.6%	70-130	7.10	30
perfluorobutyl sulfonate	158			10.0	"	160.0		98.9%	70-130	0.0725	30
perfluorohexyl sulfonate	167			10.0	"	160.0		104%	70-130	3.34	30
perfluoroctyl sulfonate	151			10.0	"	160.0		94.2%	70-130	5.96	30



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

LCS Dup (B19D002-BSD1)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	180			10.0	ng/L	160.0		113%	70-130	12.5	30
perfluoro-1-pentanesulfonate (PFPeS)	158			10.0	"	160.0		98.6%	70-130	7.47	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	168			10.0	"	160.0		105%	70-130	19.9	30
perfluoro-1-heptanesulfonate (PFHpS)	160			10.0	"	160.0		99.9%	70-130	9.32	30
perfluoro-1-octanesulfonamide (FOSA)	163			10.0	"	160.0		102%	70-130	8.41	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	208			10.0	"	160.0		130%	70-130	23.4	30
perfluoro-1-nonanesulfonate (PFNS)	159			10.0	"	160.0		99.2%	70-130	8.93	30
N-MeFOSAA	164			10.0	"	160.0		102%	70-130	8.70	30
N-EtFOSAA	167			10.0	"	160.0		104%	70-130	9.88	30
perfluoro-1-decanesulfonate (PFDS)	156			10.0	"	160.0		97.4%	70-130	5.93	30
Surrogate: D5-N-EtFOSAA	168				"	160.0		105%	70-130		
Surrogate: D3-N-MeFOSAA	165				"	160.0		103%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	193				"	154.9		124%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	186				"	151.8		123%	70-130		
Surrogate: perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:	172				"	149.6		115%	70-130		
Surrogate: M9PFNA	163				"	160.0		102%	70-130		
Surrogate: M8PFOSA	166				"	160.0		104%	70-130		
Surrogate: M8PFOS	158				"	153.1		103%	70-130		
Surrogate: M8PFOA	166				"	160.0		104%	70-130		
Surrogate: M7PFUnA	162				"	160.0		101%	70-130		
Surrogate: M6PFDA	165				"	160.0		103%	70-130		
Surrogate: M5PFPeA	157				"	160.0		98.2%	70-130		
Surrogate: M5PFHxA	157				"	160.0		98.2%	70-130		
Surrogate: M4PFHpA	157				"	160.0		97.9%	70-130		
Surrogate: M3PFHxS	156				"	151.4		103%	70-130		
Surrogate: M3PFBs	155				"	148.6		104%	70-130		
Surrogate: M2PFTreA	134				"	160.0		84.0%	70-130		
Surrogate: MPFDaA	160				"	160.0		100%	70-130		
Surrogate: MPFBa	173				"	160.0		108%	70-130		



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

Duplicate (B19D002-DUP1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	19.1			43.0	ng/L		19.0			0.700	30
perfluoropentanoate	30.8			43.0	"		29.8			3.38	30
perfluorohexanoate	64.4			8.59	"		59.7			7.64	30
perfluoroheptanoate	13.8			8.59	"		14.2			3.10	30
perfluoroctanoate	13.2			8.59	"		11.8			11.1	30
perfluorononanoate	2.90			8.59	"		3.04			4.87	30
perfluorodecanoate	U			8.59	"		U				30
perfluoroundecanoate	1.93			8.59	"		1.82			6.04	30
perfluorododecanoate	1.81			8.59	"		U				30
perfluorotridecanoate	U			8.59	"		U				30
perfluorotetradecanoate	1.75			8.59	"		1.89			7.84	30
perfluorobutyl sulfonate	19.5			8.59	"		18.4			5.88	30
perfluorohexyl sulfonate	65.9			8.59	"		63.8			3.26	30
perfluoroctyl sulfonate	245			8.59	"		264			7.80	30
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	4.94			8.59	"		4.26			14.7	30
perfluoro-1-pentanesulfonate (PFPeS)	12.2			8.59	"		13.3			8.25	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1620			8.59	"		1500			7.55	30
perfluoro-1-heptanesulfonate (PFHpS)	6.95			8.59	"		7.71			10.3	30
perfluoro-1-octanesulfonamide (FOSA)	2.63			8.59	"		2.41			8.65	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27.3			8.59	"		27.4			0.389	30
perfluoro-1-nonanesulfonate (PFNS)	1.53			8.59	"		1.58			3.06	30
N-MeFOSAA	U			8.59	"		U				30
N-EtFOSAA	U			8.59	"		1.42				30
perfluoro-1-decanesulfonate (PFDS)	U			8.59	"		U				30
Surrogate: D5-N-EtFOSAA	76.9	Q			"	115.0		66.9%	70-130		
Surrogate: D3-N-MeFOSAA	79.1	Q			"	115.0		68.8%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	112				"	111.3		101%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	198	Q			"	109.1		181%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS

Project Number: [none]

Project Manager: Matthew Loesel

Reported:

Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Duplicate (B19D002-DUP1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate:	91.6				ng/L	107.5		85.2%	70-130		
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:					"	115.0		79.6%	70-130		
Surrogate: M9PFNA	91.5				"	115.0		79.6%	70-130		
Surrogate: M8PFOSA	92.7				"	115.0		80.7%	70-130		
Surrogate: M8PFOS	90.4				"	110.0		82.2%	70-130		
Surrogate: M8PFOA	94.1				"	115.0		81.8%	70-130		
Surrogate: M7PFUnA	80.4	Q			"	115.0		69.9%	70-130		
Surrogate: M6PFDA	88.8				"	115.0		77.2%	70-130		
Surrogate: M5PFPeA	94.1				"	115.0		81.8%	70-130		
Surrogate: M5PFHxA	99.6				"	115.0		86.6%	70-130		
Surrogate: M4PFHpA	95.8				"	115.0		83.3%	70-130		
Surrogate: M3PFHxS	93.4				"	108.8		85.8%	70-130		
Surrogate: M3PFBS	99.3				"	106.8		92.9%	70-130		
Surrogate: M2PFTreA	4.20	Q			"	115.0		3.65%	70-130		
Surrogate: MPFDaA	64.9	Q			"	115.0		56.4%	70-130		
Surrogate: MPFBA	120				"	115.0		104%	70-130		

Duplicate (B19D002-DUP2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	21.1			45.5	ng/L		24.7			16.1	30
perfluoropentanoate	37.5			45.5	"		33.1			12.5	30
perfluorohexanoate	70.9			9.11	"		62.5			12.5	30
perfluoroheptanoate	17.0			9.11	"		15.2			11.0	30
perfluorooctanoate	14.1			9.11	"		12.8			9.57	30
perfluorononanoate	3.30			9.11	"		2.82			15.9	30
perfluorodecanoate	U			9.11	"		1.55				30
perfluoroundecanoate	1.93			9.11	"		1.92			0.244	30
perfluorododecanoate	2.02			9.11	"		U				30
perfluorotridecanoate	U			9.11	"		U				30
perfluorotetradecanoate	U			9.11	"		2.09				30
perfluorobutyl sulfonate	19.8			9.11	"		18.3			8.08	30
perfluorohexyl sulfonate	68.9			9.11	"		64.7			6.31	30
perfluoroctyl sulfonate	261			9.11	"		246			5.94	30



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Duplicate (B19D002-DUP2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	4.81			9.11	ng/L		4.56			5.24	30
perfluoro-1-pentanesulfonate (PFPeS)	12.5			9.11	"		11.4			9.42	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1640			9.11	"		1550			6.10	30
perfluoro-1-heptanesulfonate (PFHpS)	6.79			9.11	"		7.23			6.17	30
perfluoro-1-octanesulfonamide (FOSA)	2.57			9.11	"		2.81			9.05	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	30.2			9.11	"		27.5			9.13	30
perfluoro-1-nonanesulfonate (PFNS)	1.88			9.11	"		1.60			16.2	30
N-MeFOSAA	U			9.11	"		U				30
N-EtFOSAA	1.29			9.11	"		U				30
perfluoro-1-decanesulfonate (PFDS)	U			9.11	"		U				30
Surrogate: D5-N-EtFOSAA	90.9	Q		"	131.4		69.2%	70-130			
Surrogate: D3-N-MeFOSAA	86.7	Q		"	131.4		66.0%	70-130			
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	121			"	127.2		94.8%	70-130			
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	211	Q		"	124.7		170%	70-130			
Surrogate: perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:	103			"	122.9		83.6%	70-130			
Surrogate: M9PFNA	98.3			"	131.4		74.8%	70-130			
Surrogate: M8PFOSA	99.8			"	131.4		76.0%	70-130			
Surrogate: M8PFOS	100			"	125.8		79.7%	70-130			
Surrogate: M8PFOA	104			"	131.4		79.2%	70-130			
Surrogate: M7PFUnA	94.0			"	131.4		71.5%	70-130			
Surrogate: M6PFDA	97.0			"	131.4		73.8%	70-130			
Surrogate: M5PFPeA	107			"	131.4		81.3%	70-130			
Surrogate: M5PFHxA	112			"	131.4		84.9%	70-130			
Surrogate: M4PFHpA	104			"	131.4		79.3%	70-130			
Surrogate: M3PFHxS	103			"	124.3		83.3%	70-130			
Surrogate: M3PFBs	113			"	122.1		92.8%	70-130			
Surrogate: M2PFTreA	15.2	Q		"	131.4		11.5%	70-130			
Surrogate: MPFDaA	82.4	Q		"	131.4		62.7%	70-130			
Surrogate: MPFBa	136			"	131.4		103%	70-130			



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

### MRL Check (B19D002-MRL1)

Prepared: Apr-01-19 Analyzed: Apr-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	47.4			50.0	ng/L	50.00		94.8%	50-150		
perfluoropentanoate	52.3			50.0	"	50.00		105%	50-150		
perfluorohexanoate	12.1			10.0	"	10.00		121%	50-150		
perfluoroheptanoate	10.4			10.0	"	10.00		104%	50-150		
perfluoroctanoate	10.7			10.0	"	10.00		107%	50-150		
perfluorononanoate	10.7			10.0	"	10.00		107%	50-150		
perfluorodecanoate	10.3			10.0	"	10.00		103%	50-150		
perfluoroundecanoate	10.5			10.0	"	10.00		105%	50-150		
perfluorododecanoate	11.4			10.0	"	10.00		114%	50-150		
perfluorotridecanoate	9.94			10.0	"	10.00		99.4%	50-150		
perfluorotetradecanoate	10.7			10.0	"	10.00		107%	50-150		
perfluorobutyl sulfonate	9.41			10.0	"	10.00		94.1%	50-150		
perfluorohexyl sulfonate	10.2			10.0	"	10.00		102%	50-150		
perfluoroctyl sulfonate	U Q			10.0	"	10.00		%	50-150		
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	11.5			10.0	"	10.00		115%	50-150		
perfluoro-1-pentanesulfonate (PFPeS)	10.4			10.0	"	10.00		104%	50-150		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	19.0	Q		10.0	"	10.00		190%	50-150		
perfluoro-1-heptanesulfonate (PFHpS)	9.92			10.0	"	10.00		99.2%	50-150		
perfluoro-1-octanesulfonamide (FOSA)	10.9			10.0	"	10.00		109%	50-150		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	11.0			10.0	"	10.00		110%	50-150		
perfluoro-1-nonanesulfonate (PFNS)	10.6			10.0	"	10.00		106%	50-150		
N-MeFOSAA	10.9			10.0	"	10.00		109%	50-150		
N-EtFOSAA	10.5			10.0	"	10.00		105%	50-150		
perfluoro-1-decanesulfonate (PFDS)	12.0			10.0	"	10.00		120%	50-150		
Surrogate: D5-N-EtFOSAA	161				"	160.0		101%	70-130		
Surrogate: D3-N-MeFOSAA	154				"	160.0		96.0%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	163				"	154.9		105%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	156				"	151.8		103%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

#### MRL Check (B19D002-MRL1)

Prepared: Apr-01-19 Analyzed: Apr-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate:	148				ng/L	149.6		98.6%	70-130		
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:					"	160.0		96.6%	70-130		
Surrogate: M9PFNA	155				"	160.0		96.5%	70-130		
Surrogate: M8PFOSA	154				"	160.0		96.5%	70-130		
Surrogate: M8PFOS	147				"	153.1		95.9%	70-130		
Surrogate: M8PFOA	157				"	160.0		98.2%	70-130		
Surrogate: M7PFUnA	156				"	160.0		97.5%	70-130		
Surrogate: M6PFDA	153				"	160.0		95.7%	70-130		
Surrogate: M5PFPeA	149				"	160.0		93.1%	70-130		
Surrogate: M5PFHxA	148				"	160.0		92.7%	70-130		
Surrogate: M4PFHpA	153				"	160.0		95.5%	70-130		
Surrogate: M3PFHxS	151				"	151.4		100%	70-130		
Surrogate: M3PFBS	142				"	148.6		95.8%	70-130		
Surrogate: M2PFTreA	131				"	160.0		81.7%	70-130		
Surrogate: MPFDaA	152				"	160.0		94.9%	70-130		
Surrogate: MPFBA	160				"	160.0		100%	70-130		

#### MRL Check (B19D002-MRL2)

Prepared: Apr-01-19 Analyzed: Apr-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	49.4			50.0	ng/L	50.00		98.9%	50-150		
perfluoropentanoate	53.1			50.0	"	50.00		106%	50-150		
perfluorohexanoate	11.6			10.0	"	10.00		116%	50-150		
perfluoroheptanoate	11.6			10.0	"	10.00		116%	50-150		
perfluoroctanoate	10.8			10.0	"	10.00		108%	50-150		
perfluorononanoate	10.8			10.0	"	10.00		108%	50-150		
perfluorodecanoate	9.95			10.0	"	10.00		99.5%	50-150		
perfluoroundecanoate	11.3			10.0	"	10.00		113%	50-150		
perfluorododecanoate	10.7			10.0	"	10.00		107%	50-150		
perfluorotridecanoate	10.2			10.0	"	10.00		102%	50-150		
perfluorotetradecanoate	9.92			10.0	"	10.00		99.2%	50-150		
perfluorobutyl sulfonate	10.5			10.0	"	10.00		105%	50-150		
perfluorohexyl sulfonate	9.16			10.0	"	10.00		91.6%	50-150		
perfluoroctyl sulfonate	U	Q		10.0	"	10.00		%	50-150		



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

MRL Check (B19D002-MRL2)		Prepared: Apr-01-19 Analyzed: Apr-02-19									
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	11.7			10.0	ng/L	10.00		117%	50-150		
perfluoro-1-pentanesulfonate (PFPeS)	10.8			10.0	"	10.00		108%	50-150		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	18.7	Q		10.0	"	10.00		187%	50-150		
perfluoro-1-heptanesulfonate (PFHpS)	10.2			10.0	"	10.00		102%	50-150		
perfluoro-1-octanesulfonamide (FOSA)	10.5			10.0	"	10.00		105%	50-150		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	12.1			10.0	"	10.00		121%	50-150		
perfluoro-1-nonanesulfonate (PFNS)	10.6			10.0	"	10.00		106%	50-150		
N-MeFOSAA	10.4			10.0	"	10.00		104%	50-150		
N-EtFOSAA	12.1			10.0	"	10.00		121%	50-150		
perfluoro-1-decanesulfonate (PFDS)	11.6			10.0	"	10.00		116%	50-150		
Surrogate: D5-N-EtFOSAA	163				"	160.0		102%	70-130		
Surrogate: D3-N-MeFOSAA	155				"	160.0		96.6%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	152				"	154.9		98.0%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	149				"	151.8		98.3%	70-130		
Surrogate: perfluoro-(1,2-13C2)hexanesulfonate C13(2)-4:	146				"	149.6		97.9%	70-130		
Surrogate: M9PFNA	157				"	160.0		98.3%	70-130		
Surrogate: M8PFOSA	151				"	160.0		94.5%	70-130		
Surrogate: M8PFOS	148				"	153.1		96.7%	70-130		
Surrogate: M8PFOA	158				"	160.0		99.0%	70-130		
Surrogate: M7PFUnA	155				"	160.0		97.2%	70-130		
Surrogate: M6PFDA	157				"	160.0		97.9%	70-130		
Surrogate: M5PFPeA	158				"	160.0		98.6%	70-130		
Surrogate: M5PFHxA	155				"	160.0		96.9%	70-130		
Surrogate: M4PFHpA	158				"	160.0		98.7%	70-130		
Surrogate: M3PFHxS	153				"	151.4		101%	70-130		
Surrogate: M3PFBs	146				"	148.6		98.3%	70-130		
Surrogate: M2PFTreA	122				"	160.0		76.5%	70-130		
Surrogate: MPFDaA	153				"	160.0		95.7%	70-130		
Surrogate: MPFBa	162				"	160.0		102%	70-130		



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

Matrix Spike (B19D002-MS1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	587			44.8	ng/L	632.9	19.0	89.7%	70-130		
perfluoropentanoate	458	Q		44.8	"	632.9	29.8	67.6%	70-130		
perfluorohexanoate	156			8.96	"	126.6	59.7	75.7%	70-130		
perfluoroheptanoate	101	Q		8.96	"	126.6	14.2	68.5%	70-130		
perfluoroctanoate	101			8.96	"	126.6	11.8	70.2%	70-130		
perfluorononanoate	85.9	Q		8.96	"	126.6	3.04	65.5%	70-130		
perfluorodecanoate	86.6	Q		8.96	"	126.6	U	68.4%	70-130		
perfluoroundecanoate	81.6	Q		8.96	"	126.6	1.82	63.0%	70-130		
perfluorododecanoate	72.0	Q		8.96	"	126.6	U	56.8%	70-130		
perfluorotridecanoate	53.5	Q		8.96	"	126.6	U	42.3%	70-130		
perfluorotetradecanoate	17.5	Q		8.96	"	126.6	1.89	12.3%	70-130		
perfluorobutyl sulfonate	122			8.96	"	126.6	18.4	81.6%	70-130		
perfluorohexyl sulfonate	154			8.96	"	126.6	63.8	71.5%	70-130		
perfluoroctyl sulfonate	336	Q		8.96	"	126.6	264	56.4%	70-130		
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	102			8.96	"	126.6	4.26	77.4%	70-130		
perfluoro-1-pentanesulfonate (PFPeS)	104			8.96	"	126.6	13.3	71.7%	70-130		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1470	Q		8.96	"	126.6	1500	NR	70-130		
perfluoro-1-heptanesulfonate (PFHpS)	97.1			8.96	"	126.6	7.71	70.6%	70-130		
perfluoro-1-octanesulfonamide (FOSA)	87.3	Q		8.96	"	126.6	2.41	67.1%	70-130		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	139			8.96	"	126.6	27.4	88.2%	70-130		
perfluoro-1-nonanesulfonate (PFNS)	87.1	Q		8.96	"	126.6	1.58	67.6%	70-130		
N-MeFOSAA	82.2	Q		8.96	"	126.6	U	65.0%	70-130		
N-EtFOSAA	77.9	Q		8.96	"	126.6	1.42	60.5%	70-130		
perfluoro-1-decanesulfonate (PFDS)	81.0	Q		8.96	"	126.6	U	64.0%	70-130		
Surrogate: D5-N-EtFOSAA	80.3	Q			"	126.6		63.5%	70-130		
Surrogate: D3-N-MeFOSAA	80.5	Q			"	126.6		63.6%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	111				"	122.5		90.9%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	187	Q			"	120.1		156%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS

Project Number: [none]

Project Manager: Matthew Loesel

Reported:

Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike (B19D002-MS1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	94.3				ng/L	118.3		79.6%	70-130		
Surrogate: M9PFNA	88.0	Q		"		126.6		69.5%	70-130		
Surrogate: M8PFOSA	92.2			"		126.6		72.8%	70-130		
Surrogate: M8PFOS	96.9			"		121.1		80.0%	70-130		
Surrogate: M8PFOA	91.1			"		126.6		72.0%	70-130		
Surrogate: M7PFUnA	82.0	Q		"		126.6		64.8%	70-130		
Surrogate: M6PFDA	84.6	Q		"		126.6		66.8%	70-130		
Surrogate: M5PFPeA	91.0			"		126.6		71.9%	70-130		
Surrogate: M5PFHxA	94.3			"		126.6		74.5%	70-130		
Surrogate: M4PFHpA	92.2			"		126.6		72.8%	70-130		
Surrogate: M3PFHxS	91.8			"		119.7		76.6%	70-130		
Surrogate: M3PFBS	99.8			"		117.6		84.9%	70-130		
Surrogate: M2PFTreA	17.6	Q		"		126.6		13.9%	70-130		
Surrogate: MPFDaA	74.5	Q		"		126.6		58.9%	70-130		
Surrogate: MPFBA	114			"		126.6		90.2%	70-130		

Matrix Spike (B19D002-MS2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	625			45.8	ng/L	664.8	24.7	90.3%	70-130		
perfluoropentanoate	494	Q		45.8	"	664.8	33.1	69.4%	70-130		
perfluorohexanoate	167			9.15	"	133.0	62.5	78.5%	70-130		
perfluoroheptanoate	105	Q		9.15	"	133.0	15.2	67.2%	70-130		
perfluoroctanoate	103	Q		9.15	"	133.0	12.8	67.7%	70-130		
perfluorononanoate	88.1	Q		9.15	"	133.0	2.82	64.1%	70-130		
perfluorodecanoate	88.6	Q		9.15	"	133.0	1.55	65.5%	70-130		
perfluoroundecanoate	83.5	Q		9.15	"	133.0	1.92	61.4%	70-130		
perfluorododecanoate	78.6	Q		9.15	"	133.0	U	59.1%	70-130		
perfluorotridecanoate	60.7	Q		9.15	"	133.0	U	45.7%	70-130		
perfluorotetradecanoate	26.9	Q		9.15	"	133.0	2.09	18.7%	70-130		
perfluorobutyl sulfonate	128			9.15	"	133.0	18.3	82.5%	70-130		
perfluorohexyl sulfonate	164			9.15	"	133.0	64.7	74.5%	70-130		
perfluoroctyl sulfonate	352			9.15	"	133.0	246	80.2%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike (B19D002-MS2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	109			9.15	ng/L	133.0	4.56	78.7%	70-130		
perfluoro-1-pentanesulfonate (PFPeS)	114			9.15	"	133.0	11.4	77.4%	70-130		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1640			9.15	"	133.0	1550	71.9%	70-130		
perfluoro-1-heptanesulfonate (PFHpS)	104			9.15	"	133.0	7.23	72.6%	70-130		
perfluoro-1-octanesulfonamide (FOSA)	94.6	Q		9.15	"	133.0	2.81	69.0%	70-130		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	153			9.15	"	133.0	27.5	94.4%	70-130		
perfluoro-1-nonanesulfonate (PFNS)	95.3			9.15	"	133.0	1.60	70.4%	70-130		
N-MeFOSAA	84.1	Q		9.15	"	133.0	U	63.2%	70-130		
N-EtFOSAA	82.0	Q		9.15	"	133.0	U	61.7%	70-130		
perfluoro-1-decanesulfonate (PFDS)	89.9	Q		9.15	"	133.0	U	67.6%	70-130		
Surrogate: D5-N-EtFOSAA	84.8	Q			"	133.0		63.8%	70-130		
Surrogate: D3-N-MeFOSAA	85.6	Q			"	133.0		64.4%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	125				"	128.7		97.2%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	198	Q			"	126.2		157%	70-130		
Surrogate: perfluoro-(1,2-13C2)hexanesulfonateC13(2)-4:	99.5				"	124.3		80.0%	70-130		
Surrogate: M9PFNA	93.5				"	133.0		70.3%	70-130		
Surrogate: M8PFOSA	95.0				"	133.0		71.5%	70-130		
Surrogate: M8PFOS	98.7				"	127.2		77.6%	70-130		
Surrogate: M8PFOA	96.5				"	133.0		72.6%	70-130		
Surrogate: M7PFUnA	89.8	Q			"	133.0		67.5%	70-130		
Surrogate: M6PFDA	92.7	Q			"	133.0		69.7%	70-130		
Surrogate: M5PFPeA	100				"	133.0		75.4%	70-130		
Surrogate: M5PFHxA	107				"	133.0		80.6%	70-130		
Surrogate: M4PFHpA	98.4				"	133.0		74.0%	70-130		
Surrogate: M3PFHxS	102				"	125.8		80.8%	70-130		
Surrogate: M3PFBs	105				"	123.5		85.2%	70-130		
Surrogate: M2PFTreA	27.7	Q			"	133.0		20.9%	70-130		
Surrogate: MPFDaA	82.1	Q			"	133.0		61.7%	70-130		
Surrogate: MPFBa	126				"	133.0		94.7%	70-130		



**Environmental Protection Agency Region 5**  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

Matrix Spike Dup (B19D002-MSD1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	608			44.7	ng/L	631.7	19.0	93.3%	70-130	3.63	30
perfluoropentanoate	480			44.7	"	631.7	29.8	71.3%	70-130	4.76	30
perfluorohexanoate	159			8.95	"	126.3	59.7	78.5%	70-130	2.08	30
perfluoroheptanoate	105			8.95	"	126.3	14.2	72.0%	70-130	4.07	30
perfluoroctanoate	101			8.95	"	126.3	11.8	70.6%	70-130	0.417	30
perfluorononanoate	88.4	Q		8.95	"	126.3	3.04	67.5%	70-130	2.85	30
perfluorodecanoate	90.0			8.95	"	126.3	U	71.2%	70-130	3.88	30
perfluoroundecanoate	83.2	Q		8.95	"	126.3	1.82	64.4%	70-130	1.97	30
perfluorododecanoate	75.1	Q		8.95	"	126.3	U	59.5%	70-130	4.34	30
perfluorotridecanoate	56.8	Q		8.95	"	126.3	U	45.0%	70-130	5.94	30
perfluorotetradecanoate	20.7	Q		8.95	"	126.3	1.89	14.9%	70-130	16.6	30
perfluorobutyl sulfonate	124			8.95	"	126.3	18.4	83.2%	70-130	1.52	30
perfluorohexyl sulfonate	163			8.95	"	126.3	63.8	78.8%	70-130	5.76	30
perfluoroctyl sulfonate	336	Q		8.95	"	126.3	264	56.4%	70-130	0.0468	30
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	104			8.95	"	126.3	4.26	79.1%	70-130	1.89	30
perfluoro-1-pentanesulfonate (PFPeS)	109			8.95	"	126.3	13.3	75.9%	70-130	4.81	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1520	Q		8.95	"	126.3	1500	18.1%	70-130	3.33	30
perfluoro-1-heptanesulfonate (PFHpS)	101			8.95	"	126.3	7.71	73.7%	70-130	3.80	30
perfluoro-1-octanesulfonamide (FOSA)	91.7			8.95	"	126.3	2.41	70.7%	70-130	4.92	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	145			8.95	"	126.3	27.4	92.7%	70-130	3.90	30
perfluoro-1-nonanesulfonate (PFNS)	92.9			8.95	"	126.3	1.58	72.3%	70-130	6.49	30
N-MeFOSAA	81.5	Q		8.95	"	126.3	U	64.5%	70-130	0.877	30
N-EtFOSAA	82.4	Q		8.95	"	126.3	1.42	64.1%	70-130	5.54	30
perfluoro-1-decanesulfonate (PFDS)	82.5	Q		8.95	"	126.3	U	65.3%	70-130	1.83	30
Surrogate: D5-N-EtFOSAA	85.7	Q			"	126.3		67.8%	70-130		
Surrogate: D3-N-MeFOSAA	84.9	Q			"	126.3		67.2%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonate C13(2)-8:2 FTS	117				"	122.3		95.9%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonate C13(2)-6:2 FTS	191	Q			"	119.9		159%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike Dup (B19D002-MSD1)		Source: 1904001-11		Prepared: Apr-01-19 Analyzed: Apr-02-19								
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	
Surrogate:	98.5				ng/L	118.1		83.3%	70-130			
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:					"	126.3						
Surrogate: M9PFNA	92.0				"	126.3		72.8%	70-130			
Surrogate: M8PFOSA	94.4				"	126.3		74.7%	70-130			
Surrogate: M8PFOS	97.0				"	120.9		80.2%	70-130			
Surrogate: M8PFOA	94.2				"	126.3		74.5%	70-130			
Surrogate: M7PFUnA	85.9	Q			"	126.3		68.0%	70-130			
Surrogate: M6PFDA	87.5	Q			"	126.3		69.3%	70-130			
Surrogate: M5PFPeA	95.6				"	126.3		75.7%	70-130			
Surrogate: M5PFHxA	104				"	126.3		82.2%	70-130			
Surrogate: M4PFHpA	96.8				"	126.3		76.6%	70-130			
Surrogate: M3PFHxS	97.8				"	119.5		81.8%	70-130			
Surrogate: M3PFBS	103				"	117.4		87.4%	70-130			
Surrogate: M2PFTreA	21.5	Q			"	126.3		17.0%	70-130			
Surrogate: MPFDaA	78.1	Q			"	126.3		61.8%	70-130			
Surrogate: MPFBA	120				"	126.3		94.9%	70-130			

Matrix Spike Dup (B19D002-MSD2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19								
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	
perfluorobutanoate	644			44.1	ng/L	610.5	24.7	101%	70-130	3.03	30	
perfluoropentanoate	495			44.1	"	610.5	33.1	75.7%	70-130	0.221	30	
perfluorohexanoate	172			8.82	"	122.1	62.5	90.0%	70-130	3.23	30	
perfluoroheptanoate	110			8.82	"	122.1	15.2	77.3%	70-130	4.72	30	
perfluoroctanoate	107			8.82	"	122.1	12.8	76.8%	70-130	3.63	30	
perfluorononanoate	89.5			8.82	"	122.1	2.82	71.0%	70-130	1.57	30	
perfluorodecanoate	85.8	Q		8.82	"	122.1	1.55	69.0%	70-130	3.25	30	
perfluoroundecanoate	78.3	Q		8.82	"	122.1	1.92	62.5%	70-130	6.50	30	
perfluorododecanoate	63.7	Q		8.82	"	122.1	U	52.2%	70-130	20.9	30	
perfluorotridecanoate	34.8	Q		8.82	"	122.1	U	28.5%	70-130	54.2	30	
perfluorotetradecanoate	5.78	Q		8.82	"	122.1	2.09	3.02%	70-130	129	30	
perfluorobutyl sulfonate	130			8.82	"	122.1	18.3	91.5%	70-130	1.56	30	
perfluorohexyl sulfonate	163			8.82	"	122.1	64.7	80.5%	70-130	0.496	30	
perfluoroctyl sulfonate	359			8.82	"	122.1	246	93.0%	70-130	1.93	30	



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
Apr-03-19 10:28

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19D002 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike Dup (B19D002-MSD2)		Source: 1904001-14		Prepared: Apr-01-19 Analyzed: Apr-02-19								
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	108			8.82	ng/L	122.1	4.56	84.9%	70-130	0.887	30	
perfluoro-1-pentanesulfonate (PFPeS)	112			8.82	"	122.1	11.4	82.7%	70-130	1.68	30	
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	1740	Q		8.82	"	122.1	1550	156%	70-130	5.60	30	
perfluoro-1-heptanesulfonate (PFHpS)	104			8.82	"	122.1	7.23	79.0%	70-130	0.0386	30	
perfluoro-1-octanesulfonamide (FOSA)	89.5			8.82	"	122.1	2.81	71.0%	70-130	5.53	30	
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	152			8.82	"	122.1	27.5	102%	70-130	0.341	30	
perfluoro-1-nonanesulfonate (PFNS)	87.4			8.82	"	122.1	1.60	70.3%	70-130	8.55	30	
N-MeFOSAA	79.3	Q		8.82	"	122.1	U	65.0%	70-130	5.82	30	
N-EtFOSAA	76.4	Q		8.82	"	122.1	U	62.5%	70-130	7.11	30	
perfluoro-1-decanesulfonate (PFDS)	72.0	Q		8.82	"	122.1	U	59.0%	70-130	22.1	30	
Surrogate: D5-N-EtFOSAA	79.1	Q			"	122.1		64.8%	70-130			
Surrogate: D3-N-MeFOSAA	79.4	Q			"	122.1		65.0%	70-130			
Surrogate: perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	121				"	118.2		103%	70-130			
Surrogate: perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	208	Q			"	115.9		180%	70-130			
Surrogate: perfluoro-(1,2-13C2)hexanesulfonateC13(2)-4:	101				"	114.2		88.3%	70-130			
Surrogate: M9PFNA	91.1				"	122.1		74.6%	70-130			
Surrogate: M8PFOSA	90.3				"	122.1		74.0%	70-130			
Surrogate: M8PFOS	94.2				"	116.9		80.6%	70-130			
Surrogate: M8PFOA	94.9				"	122.1		77.8%	70-130			
Surrogate: M7PFUnA	81.2	Q			"	122.1		66.5%	70-130			
Surrogate: M6PFDA	87.6				"	122.1		71.7%	70-130			
Surrogate: M5PFPeA	98.4				"	122.1		80.6%	70-130			
Surrogate: M5PFHxA	104				"	122.1		84.8%	70-130			
Surrogate: M4PFHpA	93.2				"	122.1		76.3%	70-130			
Surrogate: M3PFHxS	94.5				"	115.5		81.9%	70-130			
Surrogate: M3PFBs	107				"	113.4		94.5%	70-130			
Surrogate: M2PFTreA	5.74	Q			"	122.1		4.70%	70-130			
Surrogate: MPFDaA	66.2	Q			"	122.1		54.2%	70-130			
Surrogate: MPFBa	128				"	122.1		105%	70-130			



# Environmental Protection Agency Region 5

## Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

### Analysis by LC MS MS - Quality Control

#### US EPA Region 5 Chicago Regional Laboratory

**Batch B19D002 - \*\*\* DEFAULT PREP \*\*\***

---



# Environmental Protection Agency Region 5

## Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370      Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
Apr-03-19 10:28

### Notes and Definitions

U       Not Detected  
NR      Not Reported  
Q       QC limit Exceeded